

REMARKS/ARGUMENTS

Favorable reconsideration of this Application, as presently amended and in light of the following discussion, is respectfully requested.

This Amendment is in response to the Office Action mailed on July 2, 2004. Claims 10-24 are pending and stand rejected in the Application. Claims 17, 21, and 23 are amended by the present Amendment.

In the outstanding Office Action, Claims 10, 14, 16-20, 23 and 24 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bolnberger et al. (U.S. Patent No. 4,718,415, hereinafter “the ‘415 patent”) in view of Teder (U.S. Patent No. 3,633,705, hereinafter “Teder”). Claims 11 and 12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the ‘415 patent in view of Teder and in further view of Bolnberger et al. (U.S. Patent No. 5,503,141, hereinafter “the ‘141 patent”). Claim 13 was rejected under 35 U.S.C. § 103(a) as being unpatentable over the ‘415 patent in view of Teder and in further view of Cappa et al. (U.S. Patent No. 4,961,420, hereinafter “Cappa”). Claim 15 was rejected under 35 U.S.C. § 103(a) as being unpatentable over the ‘415 patent in view of Teder and in further view of Ansite et al. (U.S. Patent No. 3,910,269, hereinafter “Ansite”). Claims 21 and 22 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the ‘415 patent in view of Teder and in further view of Berman (U.S. Patent No. 3,314,424, hereinafter “Berman”).

Applicants respectfully submit that the ‘415 patent and Teder, individually or in any combination thereof, do not support a *prima facie* case of obviousness of the invention recited in Claims 10, 14, 16-20, 23 and 24. This is so because, first, even when combined, these prior art references do not teach or suggest all the claim limitations recited in independent Claim 17. Secondly, except by the use of impermissible hindsight, there is no motivation to combine Teder with the ‘415 patent. Claims 10, 14, 16, 18-20, 23, and 24 are dependent from Claim 17.

According to a feature of the invention as set forth in the presently amended Claim 17, an oxygen breathing mask is recited, comprising, among other features, a housing on an inner surface of a flexible cap, a first microphone capsule, a conical tubular mouth-piece, and an arm extending from the housing supporting the tubular mouth-piece.

As explained in Applicants' specification, one of the advantageous features of the present invention is the improved acoustic performance of the mask by concentrating the useful acoustic emissions on the microphone capsule with reduced saturation and limited influence of external noises, such as the opening and closing of valves related to oxygen intake and gas exhalation, while, at the same time, simplifying the manufacturing process of the mask.¹

The '415 patent discloses a rubber body 1 with a window 5 and a valve carrier 2 pierced through the rubber body 1. As shown in FIG. 1 of the '415 patent, the valve carrier 2 contains the inhaling connection 3 with an inhaling valve 7 and an exhaling valve 4. As illustrated in FIGS. 2-8, a screw ring 9 holds a protective cover 8 and speaking diaphragm 6 in a first recess in the valve carrier 2 and an assembly having a transducer diaphragm 12 of an electrodynamic transducer 13 mounted to a ring plate 14 is disposed in another recess in the valve carrier 2.

Applicants respectfully submit that the '415 patent does not disclose a housing on an inner surface of a flexible mask from which an arm extends to support a mouth-piece. The outstanding Office Action asserts that the valve carrier 2 is an arm. Applicants respectfully disagree.

As clearly shown in FIG. 1 of the '415 patent and summarized hereinabove, element 2 is not an arm. Rather, element 2 is a large structural member pierced through the rubber body 1 that includes the exhaling connection 4 and the inhaling connection 3.

¹ See, for example, specification, page 2, line 33 – page 3, line 7.

However, even if assuming *in arguendo* that the valve carrier 2 is an arm, Claim 17 now recites a housing on an inner surface of the flexible mask from which the arm extends to support the tubular mouth-piece. The valve carrier 2 pierces through the rubber body 1 and, as such, it does not extend from a housing on an inner surface of the flexible valve.

Turning the attention now to the lack of motivation to combine the '415 patent and Teder, the outstanding Office Action asserts that the '415 patent discloses a "tubular mouth-piece," 9, 24 disposed adjacent to the flexible cap 1 with a microphone capsule 13 mounted at a distal end thereof and acknowledges that the '415 patent is silent with regards to a conical tubular mouth-piece. Teder is cited by assertedly teaching that "it is known in the art for a microphone 24 to have a tubular mouthpiece 28,"² thereby remedying the recognized deficiency of the '415 patent. The asserted motivation to combine was based on the proposition that "it would have been obvious to modify the tubular mouthpiece of the '415 patent with the conical tubular mouthpiece of Teder because having a conical tubular mouthpiece reduces the level of background noise picked up without decreasing the response of the microphone."³

Applicants respectfully disagree and submit that this motivation to combine is incorrect and not based on a substantiated line of reasoning based on established scientific principles and the teachings of both references, but rather on an unsubstantiated conclusion that disregards specific disclosure in both references teaching against the proposed combination.

The mouth-piece assembly 18 of Teder comprises a differential, or outer, diaphragm 26, which includes a perforated conical base member 28 attached to the end of an acoustic tube 10 and a circular perforated end plate 30, connected to an inner diaphragm 24. Such a mouth-piece assembly is used for a noise-canceling microphone of the type that utilizes a

² Outstanding Office Action, page 3, lines 3-5.

³ *Id.*, lines 6-10.

hollow, sound conducting acoustic tube 10 that extends between a mouthpiece mounted on one end of the tube and an electroacoustic transducer 20 mounted on the other end of the tube. In this differential diaphragm system, the inner diaphragm 24 seals off the end of the acoustic tube 10.⁴

The '415 patent specifically states that the invention disclosed therein has "extraordinarily improved sound transmission quality and intelligibility of speech"⁵ "because of the high pressure within the mask, [contributing] to an extraordinarily high signal-to-noise ratio permitting to transmit the useful sound of the speech without disturbances."⁶ With such performance characteristics, Applicants respectfully submit that the asserted motivation to combine the '415 patent with Teder, i.e., the reduction of background noise without decreasing the response of the microphone, is not only unfounded, but technically an incorrect statement. It is unfounded because one of ordinary skill in the art based on the disclosure of the '415 patent, i.e., extraordinarily improved sound transmission quality and intelligibility of speech with an extraordinarily high signal-to-noise ratio permitting the transmission of useful speech without disturbances, would not be led to conclude that an additional device would be needed to address a nonexistent problem—the reduction of background noise. In addition, the statement is incorrect because it is virtually physically impossible to place a perforated conical base covered by a perforated end plate and containing two diaphragms connected to each other in front of a microphone already covered by a speaking diaphragm and a protective cover without decreasing the dynamic response of the microphone.

⁴ The '415 patent, col. 2, lines 28-73.

⁵ The '415 patent, col. 2, line 66 – col. 3, line 2, emphasis added.

⁶ *Id.*, col. 3, lines 17-20, emphasis added.

Evidentiary showing of a motivation or suggestion to combine prior art references “must be clear and particular.”⁷ “[O]bviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art.”⁸ “[T]he strongest rationale for combining references is a recognition, expressly or impliedly in the prior art or drawn from a convincing line of reasoning based on established scientific principles or legal precedent, that some advantage or expected beneficial result would have been produced by their combination.”⁹ Applicants respectfully submit that the arguments set forth in the outstanding Office Action in support of a motivation to combine have not met the recognized burden that “when the motivation to combine the teachings of the references is not immediately apparent, it is the duty of the Examiner to explain why the combination of the teachings is proper.”¹⁰

Based at least on the above-summarized reasons, Applicants respectfully submit that the combination of the ‘415 patent and Teder does not make obvious Claims 10, 14, 16-20, 23 and 24. Therefore, the withdrawal of the rejection of Claims 10, 14, 16-20, 23, and 24 under 35 U.S.C. §103(a) based on the combination of the ‘415 patent and Teder is respectfully requested.

In addition, Applicants respectfully submit that Claims 23 and 24 recite subject matter patentable over the combination of the ‘415 patent and Teder.

Claim 23 recites a body mounted in the housing from which the arm extends to support the tubular mouth-piece. Applicants respectfully submit that Claim 23 patently distinguish over the combination of the ‘415 patent and Teder.

⁷ *In re Dembiczak*, 175 F.3d 994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999).

⁸ *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). See also *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

⁹ *In re Sernaker*, 702 F.2d 989, 994-95, 217 USPQ 1, 5-6 (Fed. Cir. 1983).

¹⁰ *Ex parte Skinner*, 2 USPQ2d 1788 (Bd. Pat. App. & Inter. 1986). M.P.E.P. §2142.

The outstanding Office Action asserts that the inlet passage 3 in the '415 patent is a body mounted on the flexible cap and that the valve carrier 2 is an arm. As previously explained, and as clearly shown in all figures of the '415 patent, it is the valve carrier 2 that is mounted to the rubber body 1 by piercing it and not the inlet passage, or inhaling connection 3 as suggested in the outstanding Office Action.

Claim 24 recites, among other features, that an aperture of the tubular mouth-piece is turned towards a center of a location at which a user's mouth is adapted to be positioned. The outstanding Office Action asserts that the subject matter of Claim 24 is disclosed by the '415 patent. Applicants respectfully disagree.

As clearly shown in FIGS. 2-8 of the '415 patent, the center of the location of the assembly containing the transducer 13 is turned towards a center of a location at which a user's nose is adapted to be positioned, not a user's mouth. Applicants respectfully submit that Claim 24 patentably distinguishes over the combination of the '415 patent and Teder.

Turning the attention now to the other obviousness rejections based on the combination of the '415 patent and Teder with other references, as to the rejection of Claims 11 and 12, the '141 patent has been cited for assertedly disclosing a mask having a cloth acoustic screen. As to the rejection of Claim 13, Cappa was cited for assertedly disclosing a baffle attached to a cap positioned above an exhalation port. As to Claim 15, Ansite was cited for assertedly disclosing a mask having a plurality of catches. And finally, as to Claims 21 and 22, Berman was cited for assertedly disclosing a microphone with adjustable height.

Claims 11-13, 15, 21, and 22 depend from Claim 17, thus incorporating by reference all of the features of that claim. Applicants respectfully submit that the combination of the '415 patent and Teder with the '141 patent, Cappa, Ansite, or Berman does not remedy the lack of teaching or motivation to combine the '415 patent and Teder already discussed. As such, Claims 11-13, 15, 21, and 22 are patentable over the cited combinations of references at

Application No. 09/831,899
Reply to Office Action of July 2, 2004

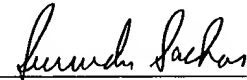
least in view of their dependency from Claim 17. Therefore, the withdrawal of the rejection of Claims 11-13, 15, 21, and 22 under 35 U.S.C. §103(a) is respectfully requested.

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal Allowance. A Notice of Allowance for Claims 10-24 is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact Applicants' undersigned representatives at the below listed telephone number.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 06/04)

Eckhard H. Kuesters
Attorney of Record
Registration No. 28,870

Surinder Sachar
Registration No. **34,423**

Mardson Q. McQuay, Ph.D.
Registration No. 52,020